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THE COVER: It's easy to understand why many people call rabbits hares, or hares rabbits. In both, the ears are longer than they are wide. Both have hind legs that are longer than the front legs, and both belong to the same order of mammals. Three hare species and four rabbit species live in Montana. Among the rabbit types is the cottontail (front cover photo: Mike Aderhold). Turn to Vince Yannone's article on page 26 for some hints on ways to distinguish the cottontail from its hare cousins. Sand bluestem (*Andropogon hallii*) is one of the grass types found on the eastern Montana prairie (back cover photo: Jim Romo). Wide expanses of this type of prairie country remain along Montana's northeastern border. And proposing it for possible consideration as wilderness has evoked some sharp words from the area's residents. Turn to "Prairie Wilderness, and the Bitter Fight Over Bitter Creek" (page 23) for Mike Aderhold's examination of this controversial, emotionally charged situation.

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The Director's Column

The Montana Department of Fish, Wildlife and Parks has started a descent down a financial roller coaster—a plunge that could have far-reaching impacts on some of *your* hunting, fishing and outdoor recreation opportunities. The extent of these impacts will depend on (1) how well the department can manage its programs on a limited income in the years ahead, and (2) how much additional support license buyers are willing to provide in the future.

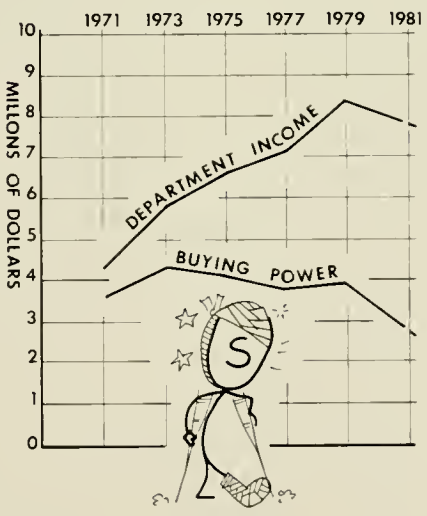
We have all seen the 1980s ushered in by a series of economic and energy-related events that are affecting the lives of all Montanans and other Americans. The Department of Fish, Wildlife and Parks is no exception. Once thought of as a "fat cat" among state agencies, the department's profile is now more of a "thin line" striving to shield Montana's fish, wildlife and parks resources from the mounting pressures of the 1980s.

Any discussion of the department's finances must begin with a look at its sources of funding. The department is supported essentially by a "user pay" concept—*not* by major appropriations of state general fund tax dollars. The sale of hunting and fishing licenses provides almost 46% of the department's annual income: federal excise taxes on hunting and fishing equipment, along with federal contracts, contribute almost another 40%. Federal money from excise taxes cannot be obtained unless adequate "matching" money from state sources is available—hence the fundamental importance of hunting and fishing license revenue. The remaining 14% comes from a variety of special user group sources, including snowmobile decal fees and snowmobile and motorboat fuel taxes, and from the state general fund (the 3% of the department's revenue which comes from the state general fund is used in the parks program).

After a history of gradually increasing income from license sales, the department currently is facing a static income with shrinking buying power (see chart). Based on the Consumer Price Index, the "buying power" of the annual license income since 1971 was actually highest in 1973; it is at its lowest point now and headed downward, due to double-digit inflation and a leveling off of income. Even though actual license income rose until 1979, the money wasn't stretching as far. Reserves (see chart) from better years rapidly began to dry up before 1979—every consumer knows the feeling by now!

This year's income from hunting and fishing licenses is expected to drop slightly, to about $8.1 million. This amount, however, will buy about 16% less than $4.6 million did in 1971. If present trends continue, by 1982 the department's

Erosion of Buying Power



purchasing power will be down 26% from 1971.

What is the solution? Cut expenditures, increase income, or both? The department has had but one clear choice from the beginning—*cut expenditures*. Cuts in all divisions began in 1979, and have recently been accelerated.

Exceedingly austere budgets have been drawn up for the next two fiscal years. Several vacant positions will be left unfilled and some jobs will be eliminated. Wardens and other field personnel will have large

Decline of Cash Reserves

areas to cover with limited mileage allowances and travel funds. Acquisition of land for wildlife will be delayed indefinitely, and equipment replacement will be curtailed. There will be little or no development of new facilities, and existing sites will receive less maintenance. As the money crunch continues, there will be fewer game surveys, less research, fewer fish stocked, less resource protection and fewer challenges to activities that threaten resources. At some point in the not-too-distant future, fishing and hunting opportunities will diminish as the department becomes less able to carry out its responsibilities. Without adequate data, the department will have to set more conservative seasons, providing fewer days afield for sportsmen.

Obviously, the DFWP cannot meet the challenges of the future in these inflationary times on a fixed income. Public understanding and support for a license fee increase

continued on page 10

THE
MOORE'S

Return of the Trapper

by Steve Shirley

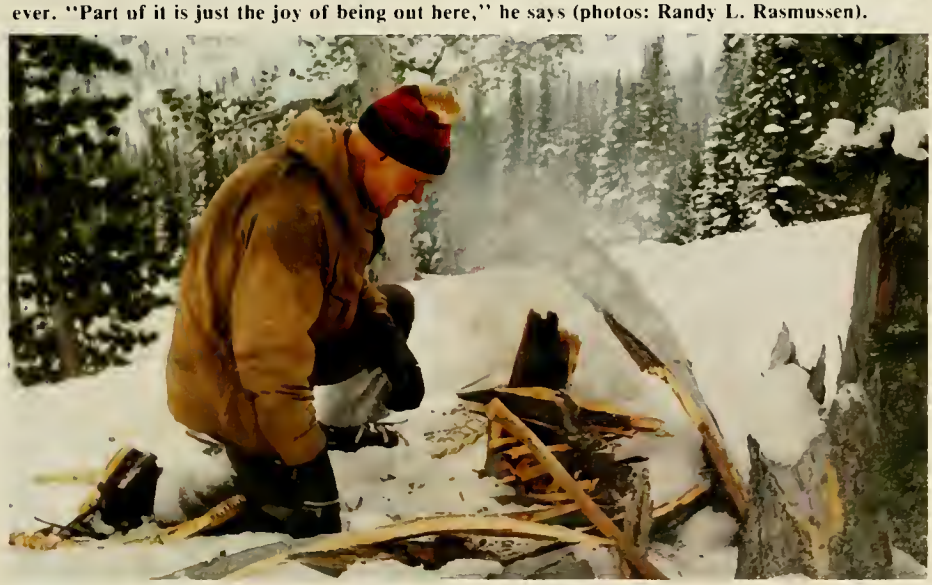
© National Wildlife Magazine, Oct./Nov. 1979

Everyone knows the glory days of trapping are long gone, together with the buckskin-clad frontiersmen who made their fortunes in fur. Less well-known is the fact that trapping is still a fairly big business. In this country, about 2 million trappers sell more than $200 million worth of furs each year, much of this going to furriers abroad. In 1978, retail fur sales in the United States amounted to $775 million.

Who are these trappers? Only a few are archetypal backwoodsmen. The U.S. Department of Commerce says that no more than 2% of all trappers earn a major portion of their livelihood from furs. The others are part-timers, from school kids and teachers to laborers and retired folks.

Although trapping is a way of life for these people, it is a volatile political issue for others. Just as anti-hunting sentiment seems to have intensified in recent years, so too have feelings against trapping. What does the modern American trapper think about this? How, for that matter, does he feel about trapping itself? How does he go about it—and why? Answers vary, of course, and there's no such thing as an "average" trapper, but Bud Moore is probably as good an example as any. Here is his story.

IT ISN'T SNOWING YET, although the sky over Montana's Mission Mountains is threatening. No matter; there is more than enough on the ground already—10 feet of it underneath Bud Moore's snowshoes. Dressed in heavy wool clothes,



For the 61-year-old Moore, the art of trapping has changed very little since he bought his first trapline 43 years ago. Although he now uses a snowmobile to get into the mountains, he must still check each trap on foot. And building a fire with damp wood in the middle of winter is as tricky as ever. "Part of it is just the joy of being out here," he says (photos: Randy L. Rasmussen).

Moore, 61, plods slowly up a steep ridge. His strong shoulders are slightly stooped. His wind-blown face is framed by a thatch of short, white hair. His dark eyes are alert as he looks for animal signs.

Moore takes a few more steps, then peers under the low-hanging branches of a fir, the top of which has been blasted off by a bolt of lightning. Clinging to the side of the tree is a small, dollhouselike structure. Wooden pegs form the walls. A slab of bark topped with boughs and a foot of snow comprise the roof. And there, a foot below the miniature roof, is what appears at first glance to be a little ball of snow. Moore lifts the frozen mound and the metal trap that grips it.

Only a splotch of black fur on the tip of its tail and its dark eyes and nose distinguish the weasel from the snow. It apparently died instantly when the trap snapped shut on its backbone. The weasel is one of dozens Moore has trapped this winter and one of hundreds he has trapped in his lifetime.

Moore retired from the U.S. Forest Service in 1974 and has returned to the trapper's lifestyle after 30 years away from it. Moore loves the life and says that, for him at least, it's pretty much the same as it was three decades ago. True, he commutes daily to his trapline by snowmobile now, instead of camping or staying in isolated cabins, but once he reaches the wilderness area in which he traps, he checks his sets on foot, as trappers have always done. And he places his traps the same way he was taught when he was very young.

Moore grew up on a homestead in the mountains west of Missoula near the Idaho-Montana border. "One of my earliest memories was when I got up one Christmas morning and under the tree was a hatchet and three traps," he says. His father, who was a trapper, logger, rancher and moonshiner, taught him much about wilderness survival, but young Bud Moore's best teachers were mountain trappers—men who climbed high into the alpine country in pursuit of furbearers such as weasel, marten, lynx, bobcat and otter. Those trappers would string out miles of trapline. Living in cabins and tents all winter, they checked their traps and collected the prime pelts. The right to use the cabins and campsites—as well as the traplines—was treated as property that could be bought and sold.

Moore purchased his first trapline for $150 from one such mountain trapper, a man named Orin Van Hoose. So, at the age of 18, Moore was tending 90 miles of trapline that snaked through the Lochsa and North Fork of the Clearwater River drainages. For six winters he walked the trapline and reaped the harvest of marten, otter, mink, weasel, fox, lynx and coyote.

Each spring he left the mountains, his backpack filled as "big as a bale of hay" with pelts. The Depression was losing its grip on the country; fur prices were climbing. One year, Moore earned $2,300 by selling his furs. In his worst year he earned $1,400—more than enough to buy a brand-new Chevy coupe.

When Moore was 24, he quit trapping and began his Forest Service career full-time. Although he never attended high school, he rose quickly through the ranks, eventually becoming second-in-command of the agency's national fire management division. Moore was presented with an honorary doctorate in forestry by the University of Montana in 1974, the year he retired and returned to trapping.

When Moore began trapping again, he discovered that prices for many furs were not much higher than they were in the 1930s, despite the fact that the fashion's world interest in bobcat fur has pushed the price of these pelts from $10 in 1970 to the present [1979] high of more than $300. For example, in 1977 he sold his marten pelts for about $20 apiece. In the 1930s he was paid $11 to $16. Sometimes Moore could get a couple dollars for a weasel or ermine pelt in the post-Depression days. Today a weasel pelt sells for about $1.

Moore believes several factors have combined to keep the fur market down—reports of $1,000 coonskin coats, and higher prices for other long-haired furs, notwithstanding. Synthetic fibers have replaced fur in many articles of clothing. Fur ranches have sprung up, specializing in mink, nutria and other fur species. And antitrapping advocates have persuaded some Americans to boycott apparel made with fur.

Thus, it could be difficult today to make a living by trapping. Moore quips: "You take most of your pay in scenery." Still, his eyes light up when he talks about trapping. "Whenever my wife, Janet, and I get uptight for cash, I say: 'Man the pot and I'll take my traps and head for the hills.' It does help us economically. But that's not the most important thing. Trapping time is harvest time for me. And part of it is just the joy of getting out there. To most people in the U.S., their work is their misery. With trapping, I've got my work tied up with my druthers."

For Moore, a typical day of trapping begins at 5 a.m. with sourdough pancakes and bacon. He leaves the warmth of his cabin and starts one of his two snowmobiles. Two hours must pass before the sunlight peers over the Swan Mountain range into Swan Valley. Heading down the trail, the headlight beam bounces eerily off trees and banks of snow. It's a bone-jarring, earsplitting ride. There is no time for thinking; the mind and muscles are devoted entirely to keeping the raucous machine from careening off the trail. Half a mile from the boundary to the Mission Mountain Wilderness Area, the snowmobile bogs down in deep powder.

Moore shoulders his gear and starts up the trail, tracing the vague imprint of previous trips. Twenty minutes later he arrives at his first trap set, nestled in a hole in a tall, decayed tree. It is not easy for the untrained eye to spot it. Several slabs of wood cover the hole except for a four-inch opening at one end. Bait rests at the opposite end of the hole. The trap, of course, lies between the bait and the opening. It is empty. Moore triggers it and draws it out of the hole. Then he pulls out the bait—a piece of snowshoe hare meat. He daubs it with what he calls his "bunkum," a concoction of beaver castors (from a beaver's scent glands), muskrat musk, fish oil, mineral oil and oil of anise. The scent isn't appealing.

Moore replaces the bait and trap and then continues up the trapline, checking more trap sets and replenishing bait. Unlike many of the old mountain trappers, Moore doesn't scar trees along his trapline with blazes. His traplines are laid out in his head. Each winter he lays out three lines which average five miles in length.

Moore doesn't just catch furbearers when he's trapping, which is one of the criticisms that have been leveled against the practice; traps don't discriminate, they only snap shut. They occasionally snag blue jays and other unintended targets. Usually an animal is dead by the time Moore arrives at the trap, either frozen by the cold or killed instantly when the trap snaps shut and severs its backbone. If small animals are still alive when he finds them, he stuns them with a sharp blow to the head, then squeezes their heart or lungs until they die. Larger animals are put away with a single shot from a .22-caliber pistol. "There is pain," he admits. "No question about it. The best I can do is set the traps so they kill as quickly as possible."

However, Moore says he doesn't have many misgivings about taking the life of a furbearing animal. To explain, he tells how he listened last winter to a radio report about the Montana cattle market and the number of cattle being slaughtered to feed Americans. "Somehow it's easier for me to go out and match wits with a coyote. We're on kind of similar footing. I've got some technology, and he's got a hell of a lot more intuition than I'll ever have. I think I could take that a lot better than going to work in the stockyards."

Although he finds that coyotes are the wiliest and most difficult furbearers to catch, martens are his favorite prey. The slender, three-foot-long carnivores are relatively easy to trap. Their brown pelts —interrupted only by a rust orange throat—are strikingly beautiful.

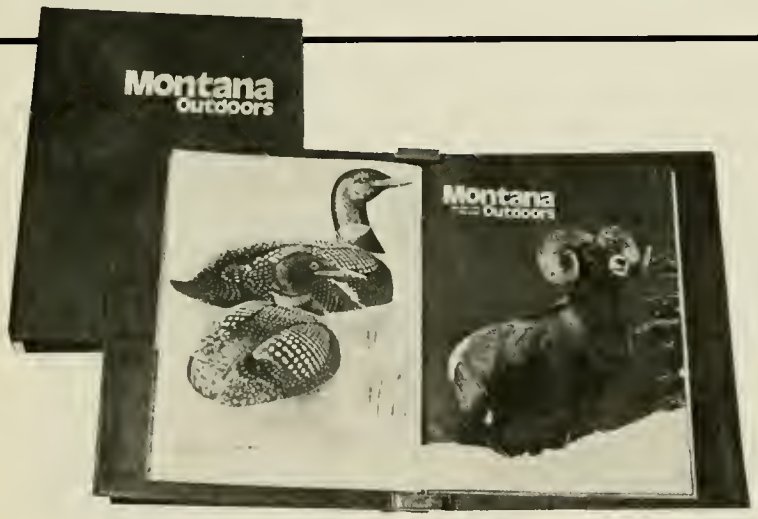
Some species such as the lynx and bobcat are getting scarce in his area, Moore believes. But he is quick to point out that Montana trappers testified in favor of a new state law several years ago that classifies the bobcat as a furbearing animal. Since the law went into effect, the state is allowed to regulate and put limits on the number of bobcat each trapper can take. Each season a trapper can take two bobcat or two lynx or one of each [now one bobcat or one lynx]. Moore believes that fur, like timber, is a resource that can be harvested Trapping can substitute for the natural weeding out of animals so that the habitat can support them. "The greatest threat to furbearers," Moore says, "is not from trapping but from loss of habitat."

Moore admits that there are abuses by trappers, as critics claim. He rails against "weekend" trappers who check their traps only once every week or two. Infrequent trap checks can leave animals suffering for long periods. He believes that, in his state, traps should be inspected at least every three or four days. Some states have laws that require checks every 24 or 48 hours, depending on the climate and other variables.

Bad trappers will also open muskrat homes in the winter, place their traps inside and not seal the stick-and-mud homes back up. Unsealed, the trap opening will allow temperatures inside the home to drop. Underwater passages into the home freeze up. Unable to get in or out, the muskrats in the home die. Moore says that good trappers reseal the home with sticks taken from the opening. The snow is dumped over the resealed opening to further insulate the home. Bad trappers also overtrap breeding areas, a thing which Moore avoids by skipping some creek basins.

With his experience as a forestry seminar teacher and Forest Service bureaucrat, Moore is a knowledgeable trapper. He is not a relic of the past. He considers trapping a natural process akin to the way in which native Americans hunted and fished. "Indians knew they had to take life to survive," he says. "They had ceremonies around it. Some of them cleansed themselves in these ceremonies to apologize for it.

"These are the things that go through the mind of what you might call the conservation trapper. It's like Aldo Leopold said: 'It is a matter of what a man thinks about while chopping, or while deciding what to chop. A conservationist is one who is humbly aware that with each stroke he is writing his signature on the face of his land.' What's he thinking about when he slices that tree? Or traps a marten, for that matter? That's the key to the whole thing." ■



SIDE BY SIDE

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Winter is a time for reflection. For quietly observing nature's majesty and her winter artistry. The season of discovery—leaves of burnt orange encased in silver prisms of ice. For making soft sounds—the whisperlike swish of cross-country skis as you break an unmarked expanse of white.

It's also time to push your chair closer to the fire, to enjoy its glow and to catch up on some of the quieter tasks that seem to elude one in warmer months. Such as reading *Montana Outdoors*.

For a guide to the seasonal unfolding of nature's handiwork—both in words and in pictures—consider a subscription. Enjoy winter's offer of a pause for reflection (photo: Vince Claerhout).

Age Determination of Wildlife: The Art and the Science

Birds and animals are often casually described by hunters, photographers, bird-watchers and others as "young" or "old," but scientists need much more detailed information to correctly assess bird or animal population trends. Sex and age data can provide biologists with valuable clues to population shifts among the various species, which in turn can help in assessing abundance and setting seasons.

The most efficient way for department personnel to obtain the necessary age and sex information is to concentrate on birds and animals that hunters have harvested. That's why the department asks the cooperation of hunters at check stations and in some cases by providing postage-paid envelopes for bird wings and animal jaws. Each hunting season, for example, several thousand sportsmen mail in bird wings and other data, which are used by department biologists in evaluating bird populations.

Several techniques can be used to determine age and sex of birds and animals. Since the complete bird or animal is not always available for examination, biologists commonly rely on such things as bird wings, feet and feathers, and animal carcasses, lower jaws and heads.

In the case of Montana's upland game birds, many age and sex characteristics can be determined from the wings. Sex of some species can be distinguished from the marking or banding of covert feathers (those along the leading edge of the wing close to the body). Primary feathers (the large, long feathers at the end of the wing) can be used to differentiate juveniles from adults. The color, sequence and length of "replacing" primary feathers of grouse, and the diameter of primary feather shafts of pheasants, permit biologists to distinguish juveniles from adults, as well as the ages of juveniles in weeks.

With deer, elk, antelope, sheep, goats and moose, examination of lower jaws is the quickest and easiest method for determining age. Sex can seldom be determined from only the jaw. Tooth replacement patterns can be used to accurately determine the age of young animals; the presence of deciduous (baby) teeth easily identifies a current year's offspring. Deciduous teeth are replaced in regular sequence by permanent teeth. After a full complement of teeth is in place, wear patterns in the cheek teeth must be carefully examined to determine age.

For more accurate laboratory analysis, the cementum layer technique has been accepted as best for age determination of big game species, as well as such species as beaver, bobcat, lynx, fox and coyote, but not for the mountain lion.

The cementum layer is an incremental layer laid down in the crown and root of various teeth; the number of layers is an indicator of age in some species of mammals. The layers are associated with annual physiological changes, such as a fasting period in walrus, hibernation in bears, restricted winter forage in big game species and other factors.

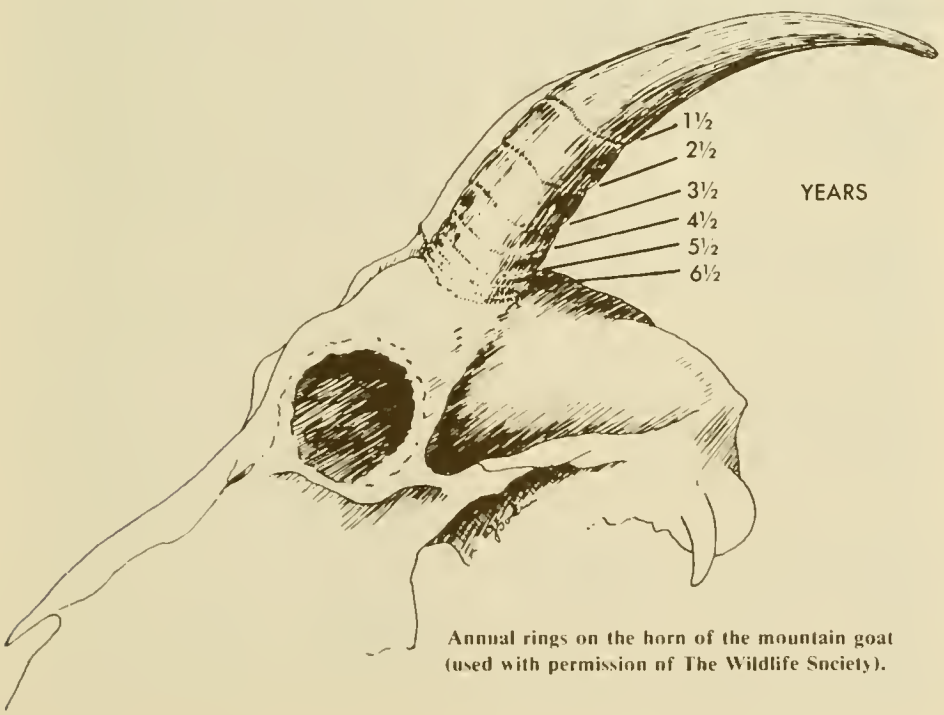
These annual layers are somewhat akin to the annual rings that appear in the cross-section of trees. However, tree rings are much more accurate indicators of age. The cementum layer technique involves decalcifying selected tooth roots, then mounting extremely thin slices on a microscope slide. The slices are stained to differentiate cell structure and thereby reveal the cementum layers.

In studies with live animals, age determination is usually limited to observations of the front teeth. The upper canine teeth of both sexes of elk permit age classification. Also, the age of a male bighorn sheep can be determined from growth rings on the horns.

Tooth analysis can be used to determine the ages of both black and grizzly bears. Live bears can be immobilized with tranquilizing drugs to allow removal of a rudimentary premolar tooth, which can then be subjected to cementum layer analysis. With dead bears, teeth as well as skull sutures can be used to determine age.

In the skulls of young animals, all the bones and joinings between bones (sutures) are readily apparent. As animals become older, however, some sutures fuse to the point where the suture is obliterated. The stage and sequence of suture disappearance can thus be used to ascribe age in some animals.

Although feather analysis, tooth replacement and wear patterns, cementum layers and suture status all help in determining age of birds and animals, these methods are not 100% accurate. Variations among individuals stem from many factors, including time of birth, location, season, nutritional quality of the habitat, etc. Biologists also vary in their experience and proficiency at aging animals. For these reasons, age determination of wildlife can be considered an art as well as a science.—*Ken Greer, Research Bureau Laboratory Supervisor*



Annual rings on the horn of the mountain goat (used with permission of The Wildlife Society).

RECYCLED PAPER

Department Hosts Important Meetings

In the past two years, the Montana Department of Fish, Wildlife and Parks has been fortunate to host some of the most important gatherings of resource managers in the United States.

In June 1979, the department hosted the annual meeting of the Association for Conservation Information (ACI), at Flathead Lake Lodge near Bigfork. ACI is an international organization of outdoor writers and public information specialists from state, federal and Provincial resource agencies. The group is concerned with information and education in the field of natural resource conservation.

In September 1979, the International Association of Fish and Wildlife Agencies and the American Fisheries Society conducted their annual meetings in West Yellowstone. Objectives of the International include promoting the rational management of fish and wildlife, fostering the conservation of all natural resources by cultivating friendly relationships and mutual understanding, coordinating the work of public conservation agencies in North America and reviewing, evaluating and acting on problems associated with the programs of conservation agencies.

Objectives of the American Fisheries Society include gathering and disseminating information on and conducting meetings for the presentation, exchange and discussion of information on all subjects and techniques related to fish, fishing and fisheries.

In May 1980, the department sponsored the Intermountain Outdoor Symposium in Butte. The symposium brought together state and federal agency representatives and regional political and media leaders. It resulted in a constructive sharing of concerns and promoted a greater understanding of resource problems and the potential for solving some of those problems.

In July 1980, the department hosted the Western Association of Fish and Wildlife Agencies and the Western Division of the American Fisheries Society meetings, at the Outlaw Inn in Kalispell.

The Western Association comprises 13 western states and two Canadian provinces. Its objectives are promoting harmony and unity among its members and members of like associations to exert a combined and powerful influence in securing enactment of laws. The Western Association works closely with the International Association of Fish and Wildlife Agencies.

The Western Division of the American Fisheries Society's objectives are the same as the parent organization's. The Western Division annually meets in conjunction with the Western Association.

Most department constituents probably don't realize how much time and effort must be put into organizing and carrying out these meetings, which are crucial to the future of fish, wildlife and recreation management in Montana.

And, equally important in this time of tight money, we need to stop and say thanks to those whose contributions make such meetings possible. No sportsmen license dollars are used to help defray costs of such meetings—other than those that go toward salaries and travel expenses of department employees who put in many extra hours planning and hosting the events.

Without the contributions and support of private individuals and industry, Montanans concerned about wise resource management and local businesses in areas where the events are conducted, it would be impossible to bring the various natural resource managers together.

We would like to extend a big thanks to the following contributors who helped sponsor the 1980 events. We hope Montana sportsmen will do the same when the opportunity arises:

Intermountain Outdoor Symposium, May 1980; Butte

R. L. Winston Rod Co., Twin Bridges; Coleman Co., Wichita, Kan.; Last Chance Surplus, Helena; Jerry Manley, Butte; John Wolf, Bozeman, and the following Butte firms: Red Rooster Supper Club, Luigi's, The Outdoorsman, Fran Johnson Sport Shop, Subaru of Butte, Coast to Coast Stores, Best West Co. Government Surplus, Bob Ward & Sons Inc., Met Tavern, Black Angus, Jack Atcheson & Sons Inc., and a group of Butte sportsmen, who—in the fine tradition of Butte hospitality—conducted an outdoor barbecue for symposium participants.

Western Association of Fish and Wildlife Agencies, Western Division of the American Fisheries Society, July 1980; Kalispell

Ducks Unlimited, Montana Stockgrower's Assn., Montana Woolgrower's Assn., Burlington Northern, Montana Pork Producer's Council and the Western Division and Montana Chapter of the American Fisheries Society; Montana Outfitters & Guides Assn., Hot Springs; Flathead Bank of Bigfork and Elmer Sprunger, both of Bigfork; First Security Bank of Helena, Econ Inc. and Ralph Holman, all of Helena; Clay H. McCartney, Chinook; Warren J. Hancock and Flint Engineering & Construction Co., both of Billings; Virginia Rivers of Safeway Stores and Montana Power Co., both of Butte; Montana Bank of South Missoula, First Bank—Southside, Ron Jenkins, Earl's Distributing Inc., First Bank—Western Montana, Missoula Electric Co-op Inc., Missoula Bank of Montana and First National Montana Bank of Missoula, all of Missoula; Triangle Telephone Cooperative Assn. Inc., Hill County Electric Cooperative Inc. and Havre Clearinghouse Assn., all of Havre; Spencer Hegstad and Vigilante Electric Co-op Inc., both of Dillon; Land Lindbergh, Greenough; Walt Staves, Polson; H. M. Burrell, Libby; Glacier National Bank, Columbia Falls; Ronan Sporting Goods, Ronan; Trout Unlimited, Bozeman; Art C. Hagenston and Crisafulli Pump Co. Inc., both of Glendive, and Kastella's, Whitefish.

The following businesses and individuals from Kalispell contributed: Sam Bibler, B&B Stores Inc., B&B Beverages Inc., Flathead Beverage Co. Inc., Lee Distributing, Flathead Wildlife, Louis Kis, Reeds Sporting Goods, Books West, Bass Club, Guest Photo Art & Books, KM Department Store, Thunderbird, The Montana Taxidermist, Bob Schumacher, The Cobbler Shop, Moose's, Carl Weissman & Sons Inc., OK Hardware, Keenan's Jewelry, The Village Book Shop, Early Dawn Ice Creamery, Frontier Coors Distributing Co., Sportsman & Ski Haus, Conrad National Bank, First Northwestern National Bank, Valley Bank, Kalispell Golf Assn., Snappy Servisenter, Rocky Mtn. Outfitter, Homespun House, Western Outdoor Store, BG's Restaurant, Western Building Center, Great Bear Taxidermy, Otis Robbins, Billie Jean Siderius, Big John's Saw Shop, Super Fair, The Jeanery, Eagle's West Shoes, Hillstead's and Tom Sander.

The following out-of-state businesses and individuals contributed: Patrick Petroleum Corp., Jackson, Mich.;

Wildlife Shorts

The following are body temperatures for some domestic animals: horse, 100 °F; sheep, 102.3 °F; dog and cat, 101.5 °F, and rabbit, 103.1 °F.

* * * * *

Fish are covered by a soft, mucus-producing epidermis (skin) that facilitates easy movement in the water and protects the fish against entry of disease organisms.

* * * * *

The bones of birds contain hollow cavities of air which lessen the bird's weight and help make flight possible.

* * * * *

Adult deer have the same number of teeth as man. Like the teeth of most vertebrates, deer teeth are differentiated in form and function.—*Vince Yannone, youth educator, Conservation Education Division*

Montana-Dakota Utilities, Bismarck, N.D.; Texas Oil & Gas Corp., Dallas, Tex.; L. L. Bean Inc., Freeport, Maine; Remington Arms and O. F. Mossberg & Sons Inc., both of Connecticut; Murray Elevators, Utah; Coffelt Electronics, Englewood, Colo.; Atlantic Richfield Co., California; Kaiser Cement Corp., Oakland, Calif.; James B. Wallace and AMOCO, both of Denver, Colo.; Champion International Corp., Hamilton, Ohio; Crescent Research Chemicals Inc., Paradise Valley, Ariz.; Fenwick Wood-Stream, Westminster, Calif., and Buck Knives, Inc., El Cajon, Calif.

In 1981, we look forward to hosting Billings meetings of the Central Flyway Technical Committee and the Central Flyway Council, both of which will also depend on the generous support of Montana businessmen, industry and other concerned citizens.—*Steve Bayless, administrator, Conservation Education Division; Bill McKiernan, assistant administrator, Law Enforcement Division*

Wildlife Film Festival Set for Spring

The University of Montana Student Chapter of The Wildlife Society will sponsor the Fourth Annual International Wildlife Film Festival in spring of this year. The deadline for submitting applications and films is March 14. Winning films will be shown to the public April 10-12 at the UM campus in Missoula.

The festival was initiated to encourage film makers to produce better wildlife films, both in technical quality and content. Festival coordinators emphasize that such films are essential in teaching ecological and environmental concepts to the public, especially because films may be the only contact many people have with wildlife.

All entries must have a predominantly wildlife theme and must have been produced or released during calendar year 1980. Judging will be conducted before the April festival by a panel of film makers, humanists and biologists. Winning entries in both amateur and professional categories will receive certificates.

The April festival will also feature panels and workshops by film makers and biologists, and exhibits of wildlife paintings and photos.

For additional information, contact: Wildlife Film Festival, Wildlife Biology Program, University of Montana, Missoula, MT 59812 (406/243-5272).

Book Reviews

• Montana Outdoors *does not market the books reviewed in our pages. When we can, we include not only the name of the publisher, but also the firm's address so that readers can order the book directly. In other cases, we use only the name of the publishing house; a bookstore or library should be able to obtain a copy of the book for you, or provide the publisher's address so you can order it for yourself.*—Ed.

THE WILD PALATE (A Serious Wild Foods Cookbook), by Walter and Nancy Hall, Rodale Press, Emmaus, Penn., 1980, 244 pages (uncorrected proof copy), $12.95 hardcover, $7.95 paper.

Whether you are a camper, hiker or backyard forager, here is a wealth of new and different ways to prepare wild foods and edible plants common to most areas of North America. Walter and Nancy Hall live in Colorado's wilds, and if you were invited to stay for dinner, you might sit down to bear paw stock, broiled arrowhead patties, pickled wild mushrooms and then finish off the meal with wild fruit custard and violet tea.

Find an empty corner in your pack for this book when you head into the woods on trips where you plan to add available wild edibles to your planned meals. It is more of a guide on "how to" fix what you've already found, rather than an instruction book on how to find wild edibles. However, it does contain many imaginative ideas about hunting, fishing and gathering wild foods and cooking what you've found with care and respect. There are over 250 recipes, plus step-by-step instructions on how to harvest and prepare your tasty find for the table.

After you have taken time and trouble to locate and identify a wild edible, wouldn't it be helpful to learn how to store those wild treats so winter would find you recalling and tasting a special memory from last summer or fall? A special section helps you choose the best method and explanatory notes suggest new ways to use those preserved delicacies.

The authors also stress using sensitive judgment when hunting for plants or animals whose numbers or habitat may be reduced.—*Sheila Bradt, circulation director*

MONTANA, by Russell Lamb, text by Dale A. Burk; Charles H. Belding, Graphic Arts Center Publishing Co., P.O. Box 10306, Portland, OR 97210; 1980, 128 pages, $27.50 hardbound.

Ask someone what Montana means and usually some general impressions are part of the answer—mountains, blue sky, big sky, blue ribbon trout streams, grizzlies, Glacier National Park and steaming geysers at Yellowstone. Certainly, Montana is all of these things. But Montana is a great deal more.

For those of us who call Montana home, it sometimes takes a talented writer sharing the love of Montana or the skillful eye of a photographer to reawaken and refresh our perceptions and thoughts about this country. Russell Lamb and Montana native Dale A. Burk have teamed up to do just that in "Montana," in a manner nothing short of professional.

Burk, whose writing about wilderness preservation has earned him national conservation awards, tries to answer the question, "What is this place Montana?" only to find the answer eludes him. Montana is a fur trader, a sodbuster, warblers and wrens, weathered wood at deserted ghost towns, the Clark Fork and the Continental Divide, the buffalo and the bitterroot. Much like the big sky that stretches across the state, Burk tries to put into words all that Montana was, is and will be.

Graphically, "Montana" is enticing, with nearly each of its 128 pages reflecting the talents of photographer Lamb. An avid backpacker and mountaineer, he captures the country from many angles—from an aerial photo of Fort Peck Dam to an eye-level view of a rusty wagon wheel. He has done an excellent job of incorporating nature's special lighting effects into his work—exquisite shots of moonlight casting millions of sparkles across Flathead Lake . . . silky sunsets . . . backlit wheat fields.

It simply requires too many words to try to explain. It's easier and certainly worth one's while to pick up a copy of "Montana" and just let your heart and soul enjoy it.—*Donita Sexton, art director*

PACKIN' IN ON MULES AND HORSES, by Smoke Elser and Bill Brown, Mountain Press Publishing Co., 283 W. Front St., Missoula, MT 59801; 1980, 158 pages, $9.95, paper.

I was loading up for a pack trip when my wife told me that my copy of "Packin' In on Mules and Horses" had arrived in the mail. "Hurray," I thought, "I'll just take the book with me and have it available for ready reference."

Upon inspection, I realized this big (8½ by 11 inches), beautiful (covered front and back with color photographs) book was too nice and too fragile (it's a paperback) to take into the woods. I would have preferred that the book had been produced hardbound in five- by seven-inch size so it could be easily slipped into a saddle bag.

continued

However, any disappointment I had quickly disappeared when I read the contents. This book, unlike its predecessors, will no doubt become the packers' bible.

The unknowing may question the need for such a publication in the last quarter of the 20th century, a time of modern travel, handy conveniences and diminishing wild and scenic areas. But as pointed out in the text, there are many reasons to go into the backcountry, and the most important reason is to have fun. Wilderness has great appeal to folks from all over the country. And the information Smoke presents only enhances that appeal.

I've known Smoke for over 10 years and, in his profession, he is something of a legend. He's been in the business for over 25 years and each year he conducts a school on packing. He spices his lectures with environmental concerns and the book is slanted the same way. At two different times, Smoke was president of the Missoula Backcountry Horsemen, a group working to protect and preserve the right to use stock in unroaded areas. He is active in his professional organization, Montana Outfitters & Guides Assn.

Co-author Bill Brown is a newcomer to the packing game, but not to writing or to horses. While working on a degree in English at Yale University, Bill was on the polo team. Later, he earned a master's degree from the Yale School of Forestry and is currently working on a Ph.D. in wildlife. Bill took Smoke's packing course and, dissatisfied with the text, collaborated with Smoke on writing this book and also worked as one of Smoke's packers for a season.

I recommend this book to the person who has packed into the woods and thinks he or she knows all there is to know. For the person just getting started with horses or the person who wants to get started, this book is a must. For anybody who has ever wondered what transpires on a pack trip, the book makes informative and enjoyable reading.

Smoke and Bill discuss the pros and cons of mules and horses as pack and riding stock and pass along the results of years of practical experience in the mountains. They also tell you how to go about selecting your animals once you've made a decision about what is best for you.

They discuss pack saddles, and again the reader is blessed with the ayes and nays and left with some strong recommendations. The meat of the text is how to pack. This is what most greenhorns want to know and the book offers easy-to-understand language and clear photographs.

One chapter covers camping equipment and the writers recommend lightweight, compact gear. This is important and one place where many wilderness packers fall short. They figure that if they can load it, the stock can pack it. Backcountry rangers take a dim view of this practice and it hurts everyone who uses horses and mules in the backcountry.

Finally, the reader is treated to the philosophy of the experienced woodsmen who have an unwavering love and appreciation of the backcountry. This is important. For the wilderness, like the sea, continues to attract men and women each year. Just as there will always be people going out to sea in ships, so there will always be people going up to the hills on horses and mules. The philosophy of Smoke and Bill is the old way—using the old, proven methods of packing and camping. There are new ways now, and one can pack stock day in and day out and never mantie a load or throw a diamond hitch. But as the text points out, the tradition of the old way is strong and it's also the best. So is "Packin' In on Mules and Horses."—*Tom Bryant, free-lance outdoor writer, Supt. of Recreation; Missoula, Mont.*

The Director's Column *continued*

will be needed in the 1981 legislature. The existing license fee structure, authorized by the legislature in 1975, simply will no longer support the department's programs without negative effects on fish, wildlife and parks resources and their users.

Looking further ahead, we also realize that license buyers alone probably cannot be expected to foot the bill indefinitely for the ever-increasing costs of resource management. The benefits of fish and wildlife and associated recreational resources are enjoyed by more than just license buyers. Public support for supplementary sources of funding—such as establishment of wildlife trust funds or aid from mineral severance taxes—will be needed.

The department's immediate task is to stretch existing dollars as far as possible in carrying out essential day-to-day activities. But we will need your help in providing an adequate financial base for the management of Montana's fish, wildlife and parks resources in the trying years ahead.

Keith P. Colbo

A message on firearms safety #3

in a series from the National Shooting Sports Foundation

Home Firearms Safety Check

National Safety Council figures show that about twice as many firearms accidents occur in the home as in the field. Most of these could have been avoided with strict adherence to some simple, basic rules of safety.

Obviously, no gun should be pointed at anything not intended as a target, and all firearms should be treated with great respect. Whenever a firearm is handled, it should be opened and kept open to demonstrate that it is not in a firing condition.

Be sure to review your firearms storage facilities. Rifles and shotguns should be stored in locked storage, as should all handguns. Ammunition should be kept in locked storage as well and completely separate from the firearms. The keys should be under the control of a responsible adult. Casual visitors and children should find it impossible to handle either without the direct approval, action and supervision of an experienced person totally informed in the principles of safe gun handling.

This may take some extra time and effort on your part, but consider the potential consequences of the wrong hands putting guns and ammunition together. Your guns can't think, but you can. Let's all keep a safe sport safe.

The Question of Game Farms

Wildlife is one of Montana's greatest natural resources. It belongs to all of the people of the state and it is not the property of any individual until reduced to possession through lawful means. In Montana, in almost every instance, the lawful means is through sport hunting of game animals ("public" wildlife).

Game farms are not new to Montana. Statutory authority for them has existed since 1917. During this time, most game farm operations stayed within their statutory authority to own, control and propagate game animals or game birds. Today, with more than 270 licensed game farms, most are operated for the business of buying, selling or raising upland game birds. Only 32 are licensed to buy, sell or raise big game animals. Until 1977, none was larger than 2,000 acres and hunting of privately owned big game animals was not an issue. However, some major changes have occurred in the last four years.

Current statutes have been interpreted to permit "sport hunting" on game farms; the size of game farms for big game animals has increased dramatically (one exceeds 19,000 acres), and the value of wildlife and its parts has increased tremendously. Meanwhile, state law has stood still.

Use of large land units for any *purpose nearly always creates potential hazards for the area's wild, native inhabitants. An example is a pending (as this magazine went to press) game farm application that could remove as much as 8,000 acres of wildlife habitat from the use of native big game animals in the foothills along the upper Yellowstone drainage. Much of this habitat is important deer and elk winter range.*

During the past decade, many new and unprecedented demands have been made on Montana's natural resources. New laws or regulations were often necessary to protect the public's wildlife, while also accommodating these demands. During that time, Montana Outdoors *has attempted to keep its readers informed of the potential impacts these demands pose for wildlife.*

Just as existing law was not adequate to properly regulate the tremendous surge of coal extraction in eastern Montana during the 1970s, existing statutes are not adequate to—and were not intended to—handle the establishment of large game farms anticipated in the 1980s. New laws or regulations are necessary to adequately protect the public's interest in wildlife in the face of these new developments in areas of existing native wildlife populations.

This article is an attempt to inform our readers of some of the problems, both potential and existing, of this new interest in large-scale big game ranching. In the following interviews, MO *has asked three department division administrators—Gene Allen, Wildlife; Jim Posewitz, Ecological Services, and Erv Kent, Law Enforcement—about some of the concerns they have about this developing problem. The thoughts presented reflect their attitudes and opinions and are presented to stimulate the public's thinking on the subject. As with any issue involving a public resource, there is no substitute for public involvement.*

* * * * *

Montana Outdoors: What are some of your specific concerns about game farms and their effect on the department's wildlife management program?

Gene Allen: First of all, I am concerned about the area taken out of production, from the standpoint of the habitat needs of native wildlife. Many of our elk and deer spend at least a portion of each year on private land. This is an arrangement the courts have ruled appropriate for Montana because of the role wildlife played in the heritage of the state. Private landowners must accommodate a reasonable amount of use by wild, public animals. Every time a fence goes up that excludes animals from a piece of their native range, the amount of habitat available to the public's resource has been diminished. Eventually, this will impact big game populations.

I'm also concerned about animals escaping from game farms and interbreeding with native stock. We don't understand gene pools very well, and I think we should take the hazards of interbreeding seriously. It's not a matter of *if* animals will escape from game farms. It's a matter of *when*, and whether we will be able to recapture them. In 1979, some elk escaped from a game farm along the Judith River—some of them were never recovered.

continued

Also in 1979, an exotic deer was killed by a hunter on one of our wildlife management areas on the lower Yellowstone. The deer had escaped from a nearby game farm. This kind of situation puts hunters in a bind because they expect to see only deer native to Montana. While it is not a fish and game violation to shoot an exotic deer, there can be civil problems between the owner and the hunter, comparable to the accidental killing of any other type of domestic livestock.

MO: What about the potential disease problem? Is it greater with game farm animals than in wild populations?

Allen: The potential for the transmission of disease and parasites is always greater when animals are concentrated. Game farm animals are often penned, causing an unnatural concentration, lending itself to the spread of disease. While all animals shipped into Montana must be given a clean bill of health, they could be carrying organisms we don't normally test for, or maybe don't even know about.

MO: From what sources do the currently operating game farms obtain their animals?

Allen: Obtaining animals, especially elk, can be very difficult. There are many restrictions, such as quarantines, which make obtaining animals very complicated and expensive. Even when a game farm operator finds a supply, it's usually difficult to get them here.

The original source of a species such as elk was from wild stock. Originally, it was a wild, publicly owned species. Over the years, however, places like Yellowstone National Park distributed elk to nearly every corner of this country in an attempt to control size of the herds. Many went to privately owned zoos or parks. Those animals bred in captivity, had offspring, and surplus animals resulted. So, places like zoos and parks were probably the sources for the privately owned elk herds in existence today.

MO: Yellowstone Park officials no longer sell elk to private entrepreneurs?

Allen: For the past several years, the park has had a policy of natural regulation and elk are no longer trapped and removed. This is one of the reasons the demand for privately owned elk far exceeds the supply.

MO: What are some of the problems in states where game farms are abundant, such as in Texas?

Allen: Texas has many game farms, but they deal extensively in exotics, with many African animals. Texas is different than Montana in that there is virtually no public land. It is common for the state to have agreements with landowners to allow the public to hunt on private land for a fee. The private landowner in Texas makes many wildlife management decisions. He often allows as many wild animals as he can provide for, because he can benefit economically. If he decides to do so, he can change his practices, stock more domestic livestock and basically eliminate the native wildlife.

Gene Allen, administrator, Wildlife Division

MO: Can game farm animals be permanently tagged or marked, so that they can be easily identified?

MO: Identification is probably one of the toughest aspects with which to deal, both in a legal sense and on the ground in a practical operation. We could say that a game farmer must permanently identify every animal in his possession or it automatically is assumed to belong to the state. This would be easy to do for animals released on the property. But on an area of 19,000 or 20,000 acres, putting a mark on every animal born on the range would be a very difficult task.

MO: Once a game farm operator owns the animals and can prove that these are his animals, does he also legally own the progeny?

Allen: Yes. But establishing original ownership of the progeny and then maintaining some kind of identification is the problem. I believe that laws can and should be compiled that legitimate game farmers will support. At the same time, such laws will help us better protect the public interest at a time when economics is creating the potential for illegal activities that shortchange the public.

MO: Could you review the ways game farms can affect the sportsman?

Allen: The primary impacts will be less land on which to hunt, and less habitat for native wildlife. Unfortunately, existence of legitimate game farms, coupled with incredibly high values for some wild animals and their parts, have created an insidious potential for illegal activities. We have had reports of bull elk poached only for their antlers and of the "rustling" of newborn calves. Each time this happens, the surplus available to the hunter that year is reduced.

MO: Do you foresee that without proper regulation we could be heading toward a situation similar to Texas where much big game hunting is on private land and is very costly?

Allen: Fortunately, Montana has a lot of public land and hunters will always have access to public elk, deer, antelope and the other species they like to hunt. The potential for charging high fees for people to hunt on private land is basically limited in a public land state like Montana. I think that potential exists in other states more so than in Montana.

* * * * *

Montana Outdoors: What is your philosophy on game farms?

Jim Posewitz: My personal attitude toward game farms stems from a historical perspective. During the settlement period of this country, many things were held in common. Today, most things have been reduced to private property. But three things are

distinctly immune from the concept of private ownership—the air, the water and the wildlife. I think the public has a common interest in wildlife. The public owns wildlife; fish and game departments don't. People are authorized to use wildlife—to possess it—and the Department of Fish, Wildlife and Parks regulates that use to a degree. But the fact of the matter is that all the people in common own wildlife. It doesn't belong to any individual.

MO: Does the process of farming, husbanding or domesticating native wild animals violate that basic principle?

Posewitz: Certainly, because wildlife is commercialized, domesticated, reduced to something that it probably was never meant to be. When people want to get into the business of raising animals, they should remember that's the purpose of domestic animals. Domesticating wildlife violates a public trust that those responsible for protecting wildlife have.

The Montana Supreme Court's ruling in the Rathbone case was a classic wildlife decision rendered a number of years ago. While it had nothing to do with game farms, one of the findings was that a person who acquires property in Montana does so with notice of the presence of wild game and presumably is cognizant of its natural habits. As a property owner, that person must recognize there may be some damage to property or inconvenience from wild game for which there is no recourse.

That says to me that wildlife is considered a public amenity in this state and private landowners are expected to recognize that. I think the vast majority of private landowners not only recognize that, but they take pride in having wildlife on their places and realize the wildlife belongs to the public.

Commercialization of wildlife was never much of a problem when the department was dealing with a few people with a few penned animals. But now vast acreages are being used to farm native wildlife species. The irony is that, in one circumstance, the department became involved in an effort to remove all the wild animals of a certain species from one man's property. To have the state agency responsible for protecting, perpetuating and preserving wildlife in the position of authorizing a liquidation of wildlife is a concept I cannot philosophically accept.

MO: What do you foresee as possible impacts on hunting and sportsmen in Montana?

Posewitz: One impact is going to be less native wildlife that belongs to the public. It will be diminished, without

Jim Posewitz, administrator, Ecological Services

compensation to the public. Hunting opportunities will be compromised and if we get into what I feel is really a disgusting practice of hunting inside game farms—walking in there and for a fee shooting something that resembles a wild animal—I think we will be degrading the sport of hunting and contributing to those who advocate prohibition of the sport.

MO: The anti-hunting movement could use this as a tool to criticize sport hunting?

Posewitz: Exactly. One of the greatest distortions of hunting was a 1975 nationally televised program called "The Guns of Autumn." Where did its producers go for their footage? They went to commercial wildlife farms where, for a fee, people with guns shot animals. The film degraded the image of the hunter. I can foresee no benefit to the hunter accruing from the practice of farming game commercially.

MO: Do you think that most people in Montana interested in game farming are interested in it for producing animals to be hunted, or for the various animal parts with a current high market value?

Posewitz: *Why* they are doing it doesn't really matter. Any time you have a major issue that involves a public resource and a public resource of such high visibility and desirability as wildlife, I think the public has to be involved in a debate of the issue or at least have an understanding of it. Most of this kind of activity goes on without the public's knowledge, not necessarily secret, but outside the public view. Few people are aware of the extent of interest in domestication of wildlife and the artificial farming of wildlife and what it actually means to the public's interest in natural wildlife living in its natural condition. Because wildlife *is* a public resource, there is no way game farming can do anything but compromise that resource.

I think we are all aware of the innumerable strains on that resource now, many centered on energy. To add another dimension or another activity that further diminishes the resource means a pretty sad wildlife legacy will probably be left for the next generation.

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Montana Outdoors: What is the legal status of game farms in Montana?

Erv Kent: Authorization for the operation of game farms to qualified applicants is provided for in Section 87-4-401 of the Montana Codes Annotated and has been on the books for a number of years. At present, there are minimal requirements for obtaining the permit, as well as minimal regulation of the operation.

The applicant—a person, firm, corporation or company—must own or control the premises where the operations are to be conducted. Ownership is determined through a search of county records. Before a permit is issued, the applicant must have fenced the premises where the game farm is located with fencing material approved by the director of the Department of Fish, Wildlife and Parks, so that no wild or public animals of like species can mix with

continued on page 18

Nature's Geometrics

featuring the work of Doug Henderson

For those of you who have donned a backpack and set your sights on some peak above tree line, imagine this: You've loaded your pack with all the goodies you can't live without—candy bars, chewing gum, gorp, gear for the monsoons and gear for the tropics. But the farther you go and the more you use up from that pack, the heavier it becomes, defying all reason and logic. You finally reach the ground above tree line and now it's just a matter of getting over 100 yards of loose rock. But that rock proves a formidable foe—a slippery, time-consuming, ankle-twisting challenge—definitely a hindrance you could do without.

But wait a minute. Don't be so hasty. Look through Doug Henderson's eyes. He is in no hurry to get to the top. For him, the rocks are no obstacle; instead they are pieces of sculpture, examples of nature's geometric perfection and nature's power. Doug settles into the rock to feel, observe and draw, and emerges with exquisite pencil sketches. Each rock is a compilation of angles, chiseled carefully and fitted together with many others to form a unique sculpture, the final form of which is a majestic peak with a single, craggy tree nearly perpendicular to the slope.

DOUG HENDERSON
4/7/80

Doug's careful observance of stalwart trees leveled by nature and delicately laced togther over a mountain stream (left) is precise and beautiful.

Finally, his rendition of Mount St. Helens was sketched only a few days before its triangular splendor was forever changed.—*Donita Sexton, art director*

from the collection of Mr. and Mrs. Lorry McGehee

The Question of Game Farms *continued*

those confined.

Also, animals must be obtained from a lawful source, such as another licensed game farm, zoo, etc. Animals can be acquired within the state or from out of state. Animals brought into the state must have health certificates.

Each game farm must be open to complete inspection by the Fish, Wildlife and Parks director or his wardens at any reasonable time.

On or before Jan. 31 of each year, a report must be submitted by the licensee to the director, showing the numbers and species of game on hand as of Jan. 1 of the same year, and the number and kinds of animals bought or sold during the year.

MO: Could you be more specific about fencing requirements?

Kent: The law provides that fencing must be done so that native animals cannot mix with those confined. The department has used fencing standards similar to those at the National Bison Range at Moiese. But what may appear to be an adequate fence is not totally immune from natural disasters, such as flooding, washouts, snow drifting or trees knocking the fence down. If this happens, the potential exists for native and captive animals to mix, as well as a series of other concerns.

This reinforces the need for adequate identification of privately held big game animals. While it can be argued that big game wild animals can be treated in the same or in a similar manner to livestock, such a comparison is completely inappropriate because domestic livestock are just not paralleled by their wild counterparts.

In addition, there is the liability concern if captive animals escape and damage agricultural property. Also, escaped animals could establish a remnant population that might conflict with native populations.

MO: Among the court rulings affecting game farms is the Shanstrom decision. Could you explain what effect this had on the legal status of game farms?

Kent: The Shanstrom decision ordered the department to refrain from regulating the raising, hunting and killing of privately owned deer, elk, antelope and bighorn sheep on the petitioner's private game ranch (10 acres at that time) through the imposition of licensing requirements, the declaration of open and closed seasons and bag limit restrictions. The court also included the other restrictions which apply to "game animals" under the Fish, Wildlife and Parks statutes contained in Title 87 of the Montana Codes Annotated. The court has determined these statutes apply only to state-owned or state-controlled animals, and not to privately owned animals.

Erv Kent, administrator, Law Enforcement

MO: Has there been a more recent judicial precedent?

Kent: Yes. An attorney general's opinion issued last spring determined that wild deer enclosed in a fenced area are owned by the state, and so are their progeny or offspring.

MO: It seems we are facing a paradox because legally we have to remove native wildlife before the game farmer can go ahead and raise his animals on the game farm. But by removing them, we are removing public property.

Kent: That's a very perplexing point and we certainly don't have all the answers now. But it is *not* the department's responsibility to remove them.

MO: Are people paying to go in and shoot a deer or an elk right now at Montana game farms?

Kent: This has occurred in the past. I can't speak for right now.

MO: Why should the public interest require regulations on the operation of game farms?

Kent: The state of Montana, as trustee for the citizens of the state, is responsible for the wise management, supervision and protection of the general public's interest in wild animals. Without adequate laws and regulation of big game farms or ranches, the state of Montana would be unable to protect the public big game resource. Some present game farm activities involving large acreages are not consistent with laws enacted in 1917.

It has been my experience that some game farm operators have expressed concern about the welfare of native wildlife and hopefully they would support the controls necessary to see that the public's interest in native wildlife is maintained.

* * * * *

THE DEPARTMENT'S VIEWPOINT

Looking to the future, the Department of Fish, Wildlife and Parks sees a need to resolve several important questions arising from the relationship of private interests in game farming to the public interest in wildlife:

- *How can game farm animals and their progeny be identified and marked so they can be distinguished from wild public animals?*
- *What provisions for fencing are adequate to separate game farm and public wildlife to prevent mixing?*
- *What liability exists for game farm animals that escape and cause damage or are a public safety problem?*
- *What liability exists for the destruction of escaped game farm animals mistakenly killed as public wildlife?*
- *What provisions for record keeping are adequate to clearly establish and identify private vs. public animals?*
- *How will the administrative and enforcement costs be paid that are related to game farming?*

Legislative consideration of these questions is necessary if both private and public interests in wildlife are to be properly protected. ■

Readers Respond

Magazine Performs Invaluable Service

It greatly distresses me that some people feel your articles are slanted and dogmatically pro-wilderness. Perhaps this view stems from the degree to which we have become accustomed to seeing energy and economic problems publicized by news media at the expense of environmental preservation issues. Unfortunately, since a significantly larger portion of the American public is concerned over the former than the latter, *Montana Outdoors* performs an invaluable service by assigning protection of wildlands its due measure of importance and warning against "too little and too late" in a state which still has so much beauty to preserve.

In the hope that the magazine will retain its present character in the future, I am taking out a three-year subscription. *—Eric Gellert; Mercer Island, Wash.*

Backcountry Alternatives

Bob Lucas' guest editorial (Sept./Oct. 1980) calls for a system of backcountry areas as an alternative to the usual polarized choices of wilderness or logging. If the Forest Service favors backcountry areas, why has it designated so few? When citizens proposed backcountry designation for the eminently qualified Twin Lakes-Miner Lake area in the lower west Big Hole, the Forest Service turned them down in favor of heavy logging.

Lucas writes that "Land qualified for wilderness *must* [Lucas' emphasis] be considered for all types of alternative uses." Okay, but let's be fair: Land qualified for logging should also be considered for backcountry recreation use. The Forest Service is good at turning wild places into fields of stumps. Can it turn clearcuts and logging roads into recreation areas like its multiple-use brochures claim? Or does backcountry only serve to "develop" wilderness lands?

If the backcountry concept is to gain any favor, the Forest Service must show that it is willing to consider backcountry an alternative to logging roadless areas—not just an alternative to wilderness. *—Fred Swanson; Helena Mont.*

The Closest Thing to Home

I am in the U.S. Navy and I have spent much time in Japan and in many other countries between Japan and Iran. I have been receiving *Montana Outdoors* for the last two and one-half years and I have really been enjoying it. It's the closest thing to home.

I have spent some time hiking in Japan. It is very beautiful, but I have a little trouble comparing it with Montana because it is so commercialized and there doesn't seem to be all that much wildlife around.

I also read your Special Hunting Issue. It brought out the fact that hunters do little to harm the habitat and quantity of animals. About the only thing I didn't like about the issue was that your magazine once again treated evolution as if it were a fact and not a theory. "Creation" fits the facts much better.

I am a hunter and hope to be home again before hunting season. I used to take Montana's wonders for granted until I joined the Navy and have seen a little more of the world. I miss good ol' deer steak or burger.*—Pat LeBrun; FPO San Francisco, Calif.*

More Catch and Release

My boys and I fished Rock Creek several times last summer—what an improvement! We caught and released several trout on both the fish-for-fun section and on the lower stream. Best of all was seeing all the feeding activity and a lot of missed strikes (we fly-fish). Sometimes we couldn't figure out what they were taking.

It makes all the difference knowing the fish are there. We vote for more catch and release waters.*—Dr. Thomas J. Moylan, Dennis Moylan, T. J. Moylan Jr.; Missoula, Mont.*

"Dolly Who?" Draws Praise

I am writing to comment on Pat Graham's article, "Dolly Who?" in the Sept./Oct. 1980 issue. I was born and raised in Cut Bank and spent many happy and wonderful summers fishing the banks of the Middle Fork of the Flathead River. My parents and uncles owned some land and a cabin near Essex and my brothers and I spent the weekends there fishing and camping. I can remember spending early morning or evening fishing the mouth of Bear Creek, Park Creek and the Middle Fork on down to Stanton Creek.

We had the thrill of catching bull trout and cutthroats (or flats) on lures and flies. I have spent the past 17 years in the U.S. Navy as a naval flight officer and have traveled many thousands of miles as part of a patrol bomber crew. These travels have helped me gain a greater appreciation for the beauty and outdoor assets of Montana. I especially enjoyed this article in that I can picture the Middle Fork of the Flathead and remember fishing with my Dad and catching a beautifully colored Dolly Varden.

I want to congratulate you for the articles and beautiful pictures you have presented in your magazine over the years. I want my children to be able to have the same opportunity that I have had of enjoying the outdoor assets of Montana and fishing the clear, pure streams. Keep up the good work and support of legislation that will provide the opportunity for our children to have these outdoor recreation areas to use in a wise and useful manner.*—Harley G. Christenot; Camarillo, Calif.*

A Toast to MO's Success

Please send me duplicates of your last three issues of *Montana Outdoors*. Before I had a chance to get to my copies, they were accidentally destroyed.

We enjoy your publication so thoroughly that on occasion we will even inconvenience your staff to complete our collection, such as now. We use your great pictures as part of our decor and we send copies of articles to our children in college who ask for them to incorporate into their essays.

We hope you can send these three issues—and we toast your continued success. *—Mrs. Marian Wilcox; Hobson, Mont.*

"A Classic In Its Own Right"

Having just read the Special Hunting Issue of *Montana Outdoors*,, I thought it appropriate to write and tell you what a magnificent collection of articles it was—a classic in its own right.

The writers have deep insight into why we hunt. They said it perfectly and they said it all. The special issue should go on sale on a nationwide basis.*—Jeffrey A. Pavia; Cornwall, N. Y.*

* * * * *

Your Special Hunting Issue was absolutely terrific and it contained some of the best writing on our sport that I've ever read.

Since my original copy has passed through many hands, I would like to order an additional two copies to ensure that I will always have a copy for myself. *—Victor Fabrycki; Hartford, Conn.*■

RECYCLED PAPER

FIFTEEN MILES east of Helena and 50 miles downstream from Three Forks, where the Jefferson, Madison and Gallatin rivers join to form the Missouri, lies Canyon Ferry Reservoir. Nestled between pine and juniper-clad hills, this 35,200-acre reservoir was created by impounding the Missouri River. With a shoreline of 76 miles, which extends upstream for 25 miles, the reservoir has become one of the foremost recreational attractions in Montana.

Lured by its excellent fishing, abundant wildlife, clean water and majestic mountain scenery, Montanans and nonresident visitors come individually, in families or in groups to enjoy this state recreation area. After picking a spot to camp or picnic, they swim, fish, water ski, socialize, rest and relax and drink beer—sometimes too much.

Along with this intensive use—hard play by lots of people—have come problems more common to the East than to Montana. More people require more facilities, more regulations and more maintenance. Also, more people bring about more vandalism, more problems, more park violations and an occasional nasty flaring of tempers.

Camping and picnicking in public campgrounds are important leisure activities for millions of Americans, and the popularity of these pursuits is increasing. Each weekend—and particularly the three "big ones," Memorial Day, Fourth of July and Labor Day—campgrounds at Canyon Ferry are transformed into migrant communities ranging in size from a few families to several thousand people.

These communities, like others, have problems of law and order. Theft, vandalism and rule violations are common. Maintaining law and order in public parks is a serious business in recreation management. Camping in intensively developed recreation areas such as Canyon Ferry is not an escape from the fetters of civilization. Rather, it is a social experience shared by many people interacting in a limited area. If rule violations are to be kept at a low and tolerable level, we must recognize the need for laws, and actively work toward their support. Only in this way can the values of outdoor recreation continue to be realized.

Every campground has a list of rules designed to maintain order in the community of recreationists. And in every campground, violations of these rules persist. Most of the violators are adults whose depreciative behavior stems from ignorance of the rules, a lack of understanding or, more commonly, a willingness to selectively disregard rules that stand between them and some desired activity.

Activities once tolerated from a few now create serious environmental impacts as more and more campers swarm over the area. All present rules must be enforced and new rules must be added. The camper finds that what he has been doing for years now may bring a stern verbal warning from enforcement personnel, a written courtesy citation or even a notice to appear in a Justice of the Peace court. Many campers view this as unjust and, as a result, feel few pangs of conscience when breaking campground rules.

For example, an individual may have been using an undeveloped spot on the reservoir for years to fish or to run his dog. As more people utilize it, more vehicles are driven to the area causing off-road damage, littering, conflicts with loose dogs, soil compaction and tree damage. One day the individual travels to this particular area and finds it fenced or barricaded to prevent off-road use, so he is restricted to only certain sections. He also finds signs which say "all pets must be kept on a leash," and "no motorized vehicles beyond this point." In frustration, he may either tear down the signs or purposely violate the intent of the signs. His favorite spot has become a favorite spot for other visitors and certain controls are now required too retain as much of the environmental quality as possible.

These problems continued to increase

A busy day at Canyon Ferry Reservoir (F&G photo: Paul Bushaw).

Canyon Ferry Reservoir:

Enforcement Efforts Bring Positive Results

by Bob McKenna and Bob Miller

during the 1970s, almost to a point where a race existed between the public desiring more camping areas and the Department of Fish, Wildlife and Parks trying to construct and provide more services. By 1976-77, it became clear that some drastic measures had to be taken to control park rule violations and vandalism. In many cases, repairing the vandalism was more costly than building new facilities. In some campgrounds, near-riots had occurred between campers desiring a quieter experience and those participating in noisy activities such as keggers.

Total 12-hour visitor use days
Canyon Ferry State Recreation Area

1975	—	267,766
1976	—	389,343
1977	—	395,922
1978	—	402,447
1979	—	411,074
1980	—	390,000 (estimated)

Source: Water and Power Resources Service Annual Recreation and Wildlife Summaries

The department faced the problem of setting some degree of acceptable use levels for such activities at Canyon Ferry. This was extremely difficult because people had established use habits over many years with little guidance or control. Finally, in spring 1978, the Parks Division and the Enforcement Division set up plans for a special concentrated warden patrol at Canyon Ferry to assist the parks manager and area warden. Coordinated through the department's regional headquarters in Bozeman, this special patrol consisted of two or three wardens assigned to the reservoir every weekend and holiday. Assistance was also received from the sheriffs' offices in both Lewis and Clark and Broadwater counties.

Both park and enforcement personnel believed that education, not punishment, should be the goal while enforcing rules and regulations. Public relations therefore became one of the most important functions.

Those working the area were reminded that the impression each employee leaves with the visitor has a lasting impact and could make the difference between support or nonsupport of the department's goals and programs.

In addition, department personnel conducted several surveys during 1978. Some interesting results were obtained: (1) A random check of 635 boats showed that 444 were engaged in fishing, 39 in water skiing, 97 in cruising and 55 in other activities. (2) Information was gathered to determine the frequency of the following common violations, listed in order of prevalence:

a. Vandalism—destruction to campground facilities.
b. Violation of permit rule for large groups—loud parties, keggers.
c. Theft—principally equipment from docked boats, but also items stolen from campers in camping areas.
d. Off-road vehicle use/trespass—primarily motorcycles.
e. Littering.
f. Boating violations—no registration, insufficient safety equipment.
g. Fishing without licenses.
h. Violation of 14-day stay period and 48-hour unattended camp rule.
i. Refusal to pay camping fees.
j. Pets not on a leash.
k. Dumping sewage from holding tanks into the reservoir and around campgrounds.

Some severe problems were curtailed at four recreation areas on the West Shore Road by converting those sites to day-use public beaches and eliminating overnight camping. Problems at the Hellgate Recreation Area were reduced by providing well-designed, screened areas to eliminate much of the overcrowding that had taken place previously. An area was also provided for a live-in caretaker whose presence helped reduce conflicts and adverse use.

In 1979, budget and personnel limitations severely curtailed the special patrol work. The absence of uniformed officers immediately resulted in increasing complaints, conflicts and problems. A burden was placed on the local sheriffs' offices because of lack of Fish, Wildlife and Parks personnel.

Traffic counters were placed on selected roads around Canyon Ferry, and overnight stays versus daytime use was recorded from May 15-Nov. 30, 1979, with the following results:

Silos Recreation Area—3,395 campers stayed overnight, and 19,342 people used the area during the day.

West Shore Road (four sites)—55,000 people utilized the public beaches.

Hellgate Recreation Area—15,400 campers stayed overnight, and there were 7,000 daytime users.

Also recorded was the impact of Memorial Day—although the maximum capacity for the developed campgrounds was 622 sites, there were actually 1,181 camps. Popular sites were overflowing with visitors: Ponderosa Recreation Area, with 25 campsites, had 240 units; Magpie Bay, with a capacity of 10 units, had 75, and Hellgate, with a capacity of 192 units, had 258. Areas without drinking water did not reach capacity.

Increased complaints, violations and usage mandated a special enforcement effort at Canyon Ferry in 1980. An enforcement plan was developed with the objective of making the enforcement effort an integral part of the overall Canyon Ferry Management Plan. The area manager was trained as an ex officio warden, and his vehicle was equipped with a law enforcement radio with both wardens' and sheriffs' frequencies. Because of budget restrictions, wardens pooled vehicles, checked camps by walking and tried to be visible in key areas at key times.

Again, as a result of an increased enforcement effort, complaints, violations and problems decreased considerably from 1979.

As a result of the law enforcement effort over the past three years, we have found:

- Visibility of uniformed officers and well-marked vehicles are the greatest assets for preventing violations and other problems at the reservoir.
- Visibility is seriously affected by lack of personnel, budget limitations and current mileage restrictions.
- Contracting with the sheriff's office for patrolling could help, but the best solution is probably assigning a full-time warden for Canyon Ferry Reservoir. This would require an additional full-time employee in the Enforcement Division.
- Public relations campaigns, effective design of facilities, prompt maintenance, adequate patrolling, adequate signing and controlling use of facilities by activity type and numbers of people all help avoid problems.
- A "team" approach with the Parks Division, Enforcement Division and local law enforcement personnel working closely together is most effective in reducing violations.
- Additional ex officio warden training for other Parks Division personnel will provide greater assistance.
- Many conflicts can be minimized by setting areas aside for special uses—such as group overnight camping, motorcycles, etc.
- The public responded positively to the increased efforts made in 1978 and 1980.

Parks and enforcement personnel must continue to ask questions: Does what we are doing make sense? Will it be agreeable to users? At what level should use be limited? How can conflicting goals and values be identified and resolved? The only way to answer such questions is by effective two-way communication between user and manager.

A positive attitude is also important, because there are no magic answers. Recreation is legitimate and worthwhile, but it has impacts and costs like all other human activities. The concentrated enforcement efforts at Canyon Ferry during 1978 and 1980 were extremely effective and resulted in favorable public support. But this type of concentrated effort takes money and manpower. Hopefully, the program at Canyon Ferry over the past three years can continue and also be applied in other areas of the state. ■

Contributors

When **Steve Shirley** set out to write "Return of the Trapper," he accompanied Bud Moore on his trapline as part of the research. The article first appeared in the Oct./Nov. 1979 issue of *National Wildlife* and *Montana Outdoors* is grateful to the National Wildlife Federation for allowing us to reprint the article. As Shirley notes in an introduction to the piece, trapping is a "volatile political issue. . . . Just as anti-hunting sentiment seems to have intensified in recent years, so have feelings against trapping. What does the modern American trapper think about this?" He looks to Bud Moore for some answers. Turn to his article on page 2. Formerly a reporter for the Missoulian, Shirley is now a reporter with the Lee Newspapers State Bureau in Helena.

Photographs accompanying the article are by **Randy L. Rasmussen**, also formerly with the Missoulian and now a photographer with Associated Press in Los Angeles.

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Doug Henderson's work is subtle. The greyish tones in his pencil sketches are not entirely black or entirely white. But his eye is unfailingly creative and he captures "Nature's Geometrics" with an unusual accuracy. The angles of rocks juxtapose to form one-of-a-kind sculptures. Henderson has been working as an artist since 1977, and primarily with pencil for the last two years. He is basically self-taught, with some help from friends and his own study of lithographic techniques. He currently lives in Bozeman and is studying at Montana State University. For three examples of his work, turn to page 14; his sketches are also displayed at the Tatem House in Helena and at Fjeld's Custom Framing in Bozeman.

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Canyon Ferry Reservoir has become one of the most popular recreational areas in Montana. With increased use, however, has come controversy: vandalism, park violations, the need for more facilities and maintenance and a wide range of both enforcement and parks problems. Activities once tolerated from a few recreationists began to create serious environmental impacts as more and more recreationists swarmed over the area. Through a cooperative effort begun by personnel from the department's Parks and Law Enforcement divisions in 1978, some information has been gathered and some possible solutions worked out. Turn to page 20 for **Bob McKenna**'s and **Bob Miller**'s article, "Enforcement Efforts Bring Positive Results." McKenna is the Parks Division parks manager for the Canyon Ferry State Recreation Area and also an ex officio warden. Miller is the safety administrative officer for the department's Law Enforcement Division and president-elect of the Western States Boating Administrators Association.

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When the Wilderness Act was passed by Congress in 1964, one of its primary mandates was to "secure for the American people . . . the benefits of an enduring resource of wilderness. . . ." From 1964-76, lands administered by the U.S. Forest Service, the U.S. Fish and Wildlife Service and the National Park Service were considered. The Bureau of Land Management (BLM) began its review in 1976; in Montana, the BLM began its wilderness inventory in 1978. As **Mike Aderhold** writes, "To date, it has been a rough exercise for the BLM." One problem has been that the BLM has been unable to tell current users of possible wilderness areas exactly how it will manage those areas if they are approved as wilderness. Since only Congress has authority to make the final decision on whether an area will be designated wilderness, the BLM can't give any guarantees. Aderhold further notes, "Nothing has fueled the controversy . . . more than the Bitter Creek Wilderness Study Area." For Aderhold's perceptive analysis of "Prairie Wilderness, and the Bitter Fight Over Bitter Creek," turn to page 23. His previous work with four federal agencies, including the BLM, provides him with an unusual overview. He recently became the department's information officer for Region 1 (Kalispell), after several years in that position in Region 6 (Glasgow).

* * * * *

If you call all hares "rabbits," don't feel alone; many other people do too. **Vince Yannone** reports that three types of hares and four types of rabbits inhabit Montana. One type of hare is the snowshoe, but the whitetail jackrabbit and blacktail jackrabbit are actually hares. Under the rabbit classification, Montana has three types of cottontails (mountain, eastern and desert) and the pygmy rabbit. Confused? Here are some similarities that may confuse you even further: Both hares and rabbits have ears longer than they are wide, hind legs longer than the front legs, five digits on each foot and hairy cushions on the soles of the feet. Differences include: Hares are usually larger than rabbits, have longer ears, the ears of the hare species in Montana have black tips and two of the hare species—the whitetail jackrabbit and the snowshoe hare—change color in the winter. For more details about similarities and differences, and to discover why both are often called "Thumper!" turn to page 26. Yannone is the youth education specialist in the department's Conservation Education Division. When he is not teaching young folks about Montana's wildlife and its ways, or doing his television show, or preparing a newspaper column, he is apt to be found doing one of the many outdoor activities he enjoys.

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Jim O'Loughlin has learned from the best teacher—experience—that when fly-fishing *or* ice fishing, it's best to "Leave Your Watch at Home." In a series of delightful yarns, O'Loughlin traces his circuitous progress through the fine art of fly-fishing, to the rigors of ice fishing —and back again. What unfolds is a series of "lessons" guaranteed to bring a chuckle to anyone who has ever tried to hold a fly rod in right hand, slack line in left, net in teeth and to maintain some sense of balance in slippery-bottomed hip boots. So O'Loughlin turned to ice fishing, leaving the elitism and pure, aesthetical appeal of fly-fishing behind. But even here, the pitfalls are many and the humor warm-hearted. The reader is never certain if O'Loughlin's successes (and failures) are because of his Irish heritage, or if there's a bit o' the Blarney stone tossed in. O'Loughlin is the property manager in the department's Centralized Services Division. He describes himself as a "devout fisherman and an amateur fish biologist with a line of logic uncluttered by facts." Turn to his reminiscences on page 28.

Wildlife Shorts

Man can increase populations of game mammals, birds and fishes by providing artificial cover or modifying natural conditions to provide a better environment.

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When an animal benefits by living with, on or in another and without harm or benefit to the second, the state is called "commensalism."

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Terms that originate in the animal kingdom are frequently used as descriptive words in our language. For example, the term "crow's feet" also refers to the small wrinkles at the outer corners of the eyes.—*Vince Yannone, youth educator, Conservation Education Division*

Congress directed in 1976 that the Bureau of Land Management review all public land roadless areas of 5,000 acres or more to determine their suitability for wilderness designation. The recently completed inventory has identified 167,376 acres in central and eastern Montana that will receive further study as wilderness, including 76,120 acres along the wild and scenic portion of the Missouri River (photo: Joe Elliott).

Prairie Wilderness, and the Bitter Fight Over Bitter Creek

by Mike Aderhold

Prairie Wilderness The Wilderness Act, passed by the U.S. Congress in 1964, established: ". . . a National Wilderness Preservation System for the permanent good of the whole people. . . ." The object of the act was: ". . . to insure that an increasing population, accompanied by expanding settlement and increasing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition. . . ."

Congress declared it national policy ". . . to secure for the American people of present and future generations the benefits of an enduring resource of wilderness. . . ."

Congress defined this wilderness resource as areas of undeveloped *federal* land in a natural condition, without permanent improvements or human habitation, which have outstanding opportunities for solitude or a primitive and unconfined type of recreation. These areas may contain ecological, geological or other features of scientific, educational, scenic or historical value. It was the intention of Congress to preserve a wide variety of land for wilderness.

During the first 12 years of the act's existence, only lands administered by the U.S. Forest Service, the U.S. Fish and Wildlife Service and the National Park Service were considered. In 1976, however, the Federal Land Policy and Management Act (Sec. 603) directed the Secretary of the Interior and the Bureau of Land Management (BLM) to review all public land roadless areas of 5,000 acres or more and roadless islands to determine their suitability or nonsuitability for wilderness designation. These agencies were directed to report their recommendations to the President no later than Oct. 21, 1991. The President must then report his final recommendations to Congress within two years and Congress will decide which, if any, areas become wilderness.

The state's position on wilderness will be decided by the

governor in consultation with his appointed Wilderness Council on which the Department of Fish, Wildlife and Parks is represented. The council will make recommendations to the governor after reviewing the BLM's suitability reports at the completion of the BLM's second, or study, phase. The department's comments will be based on the impacts of the recommended wilderness areas on the state's fishery and wildlife resources and on public recreation.

To accomplish the mandate of Congress, the BLM developed a framework for wilderness review consisting of three major phases: inventory, study and reporting.

The inventory phase is simply an identification of those lands containing wilderness characteristics as defined in the Wilderness Act. These include size, roadlessness, solitude, naturalness and unique features. The inventory is designed to eliminate lands without wilderness characteristics early in the process.

In Montana, the BLM's wilderness inventory began in November 1978. By November 1979, 5,936,000 acres of the BLM's 8,140,000 surface acres had been dropped from further wilderness consideration. Nationally, of the more than 173 million acres considered by the BLM outside of Alaska, more than 117 million acres were dropped from the inventory by November 1979.

Those lands which survive the inventory review are classified as wilderness study areas (WSAs). These areas are to be studied under the BLM's multiple use planning system. All of the multiple resource conflicts and the effects of wilderness designation on other uses are to be analyzed during the study phase. These wilderness studies will result in "suitability reports" on each WSA. Environmental impact statements will also be prepared for the areas that, after study, appear suitable for wilderness designation.

As of August 1980, only 783,000 acres had been proposed by the BLM for wilderness study in Montana. Nationally, the figure for states outside of Alaska was 22,910,000 acres. By November 1980, the BLM had settled on 429,915 acres in 43 units as wilderness study areas. This is approximately 5.3% of the total surface acreage for which the BLM is responsible in Montana. Because some of the areas dropped and some of the areas proposed as wilderness study areas are being protested by those for and against wilderness, these figures may change a little this winter.

The reporting phase is the process of submitting the suitability reports and recommendations to Congress via the Secretary of the Interior and the President. *Only Congress has the authority to make the final decision whether an area will be designated wilderness.*

In Montana, the BLM is winding up its inventory effort and has just begun the study phase. The reporting phase is at least a year away and probably longer. At the end of each phase, Montana citizens and the public in general have been and will continue to be given an opportunity to review the BLM's effort and to comment on its work.

To date, it has been a rough exercise for the BLM. Much misunderstanding exists about wilderness, about the BLM's review process and about what will be allowed and not allowed in a wilderness area. One of the problems has been that the BLM has not been able to tell current users of potential wilderness areas exactly how it will manage these areas if they become wilderness. Without some guaranteed management assurances, most eastern Montanans are reluctant to gamble on future administration. The BLM's answer is that Congress is the final authority, and until it acts on the issue, the BLM can give no guarantees.

Many people hold strong opinions against prairie wilderness. Through political pressure, some Montanans have tried to discount the BLM review process and to vote down wilderness at the inventory phase. To date, these efforts have been largely unsuccessful, but Montanans should remember two points: (1) The BLM, in reviewing lands under its jurisdiction, is simply discharging the mandate of Congress, and (2) only Congress can designate wilderness.

The Bitter Fight Over Bitter Creek

Nothing has fueled the controversy over the Bureau of Land Management wilderness review in northeastern Montana more than the Bitter Creek Wilderness Study Area.

Approximately three townships in size, the area is remote, even by Montana standards—15 miles south of Canada, 49 miles northeast of Malta, 27 miles north-northwest of Glasgow and 17 miles north of U.S. Highway 2 on a gravel road that works down to a scraped trail. Few people outside of Valley County know the area. Impossible to reach if it rains hard or snows very much, the area is what is now called *de facto* wilderness. Barring something like a nuclear waste dump or an MX missile system, it would remain essentially wild, no matter what it was called.

A lot of roadless, shortgrass prairie remains along Montana's northeastern border. You can fly 1,500 feet off the ground, west from the old Glasgow Air Force Base, across the rolling northern plains and over the Bitter Creek Unit, and miss it if someone doesn't point it out. On the ground, you can see why nobody lives there and why there are only a few trails. The soil is thin and the country rough. The substrate, Bear Paw shale, comes to the surface in many places and there are eroded badlands and geologic "blow out" areas where centuries of northwestern winds have pockmarked the land. There are scattered deposits of glacial till, sagebrush bottoms and plateau sites with relic shortgrass plants. In general, it has the flora and fauna of most of the rest of undeveloped eastern Montana.

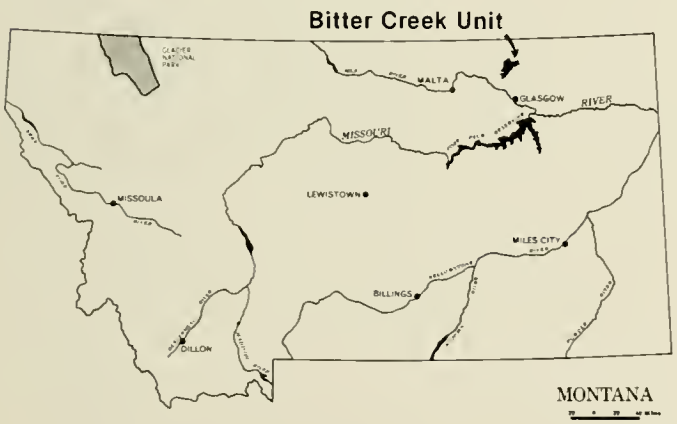
The area possesses two features that make it a little different. One is that most of the site is in kind of a depression, two-thirds of which is roughly surrounded by a rim. Down in the Bitter Creek drainage (the depression), even the distant grainfields, storage bins and irrigated alfalfa fields disappear. Aspen groves, the other unusual feature, are scattered about, but located mostly at the heads of coulees. They are probably present because of perched water tables held in hidden glacial gravels. Aspens are not common on the high plains.

Inventory of the Bitter Creek Unit was accelerated because of possible conflicts with the proposed northern border leg of the Alaska Natural Gas Transportation System (see "The Gas Company's Pipe Dream," *Montana Outdoors,* July/August 1975). The current routing of the 42-inch pipeline, which will carry gas from Alaska's North Slope to the Midwest, bisects the lower third of the unit. Accelerating the inventory and isolating the discussion

seems to have focused all the anti-wilderness sentiment in the northeastern part of the state on this one wilderness study area.

It is hard to think of the Bitter Creek area as a potential Bob Marshall East. It becomes uncomfortably hot in the summer and has more than its share of mosquitoes and other insects. And when it is cold, getting around becomes impossible. Fresh-water springs are few and hard to find, so there is very little potable water. It is neither the best nor the worst of the wilderness sites under study north of the Missouri River. It is a good example of the shortgrass, high plains ecosystem. There is beauty, for those with eyes to see it—but that holds for a lot of places in northeastern Montana.

Still, in an area where the population is about four persons per square mile, local residents have trouble seeing the *need* for such wilderness. A 30-minute trip by car in any direction from Glasgow will put one in similar country—almost as natural and primitive—with opportunities for solitude and unconfined recreation; and, locally, this kind of country has been increasing, not decreasing, since the 1930s. To many, the wilderness review seems a waste of money, time and human effort, especially when the best long-term use of the country appears to be its present use: raising a crop of native plants and animals and a few head of cattle. People, of course, have been welcome to visit the area all along.



The stated purpose of the 1964 Wilderness Act is to assure that not all lands in the United States are occupied and modified, and that some lands will be protected and preserved in their natural condition so that future Americans may know their heritage and derive the benefits of an enduring wilderness resource.

People in Valley County have a genuine love for the land which, to an outsider, seems inconsistent with their feelings about wilderness. They appreciate natural beauty and wildlife, and their interest in natural and social history is strongly reflected in the local museum. In fall 1979, 130 people packed and stood outside a Glasgow courtroom for a meeting on the C. M. Russell National Wildlife Refuge. When a Fish and Wildlife Service planner started the meeting by saying it would not be about wilderness, it was more than an hour before he could get off the subject. On Dec. 4, 1979, almost 200 people went to the Glasgow Junior High School gymnasium for a BLM evening session on the Bitter Creek Unit. Local folks took over the meeting and for two hours gave prepared talks against any wilderness plans. And it wasn't just angry ranchers who talked; there were speeches by the local district judge, bank presidents, Glasgow's senior physician, several merchants and others not usually seen at "protest" meetings. At the end of August, more than 200 people staged a parade in Malta and held a barbeque and speak-up session to protest wilderness in general, and the Bitter Creek effort in particular. Over 1,200 people from Valley County have written complaints to the BLM's state office in Billings about the Bitter Creek Wilderness Study Area. BLM State Director Mike Penfold, no newcomer to environmental disagreements, said he has never in his professional career seen anything like it.

It doesn't matter that Congress mandated in the Federal Land Policy and Management Act of 1976 that the BLM review for possible wilderness classification its roadless areas of 5,000 acres or more. Nor does it matter that, after much deliberation, the BLM has developed a reasonable review process involving inventory, study and reporting phases, with public involvement at every step. It doesn't seem to make much difference that in proposing the Bitter Creek Unit for study status, the BLM allowed a corridor for the Northern Border Pipeline and reduced the acreage from 80,145 to 59,112 acres to allow some trails that local residents would like to call roads. It is of little concern that the area under discussion, with the exception of one school section, is all public domain. Or that cattle grazing and reservoirs and wells are allowed in wilderness. Or that the BLM and others are working overtime to eliminate misunderstanding about the Wilderness Act. Or that in the United States, about 100 acres are being developed every hour—day and night—seven days a week.

It doesn't even matter much that the BLM has already eliminated about 7.7 million of its 8.1 million acres from wilderness consideration in Montana, that the agency is working toward a relatively small amount of grassland wilderness and all that is under discussion at this point is whether the BLM will "study" an area for "possible" wilderness "consideration." The issue—whether Bitter Creek will become wilderness—will be decided only by Congress, at least four years from now and most likely longer. None of this matters; the vast majority of people in Valley County do not want wilderness at Bitter Creek or, it seems, anywhere else in the county. Period.

There is a slight chance for compromise. Most of the logical opposition to wilderness comes from stockmen who think wilderness will affect their livelihoods. They are asking the BLM just how the land will be managed if and when it is classified as wilderness. Since Congress is the final authority, the BLM can't give a specific answer. Most eastern Montana ranchers have heard about western Montana wilderness managed by the Forest Service, where that agency has taken a hard line in interpreting the Wilderness Act. The rumor mill is full of stories about stockmen not being able to maintain stock water, fences, line cabins or windmills, or not being able to control fires except with hand tools. The truth is, however, that no grazing allotment in Montana has ever been reduced or canceled because of wilderness classification.

Montana's wilderness activists say the Forest Service has

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THUMPER!

by Vince Yannone

FOR AN awfully long time, the words "rabbit" and "hare" have been used as though they were synonymous. But what we call "jackrabbits" and "snowshoe rabbits" are actually hares. Three types of hares and four types of rabbits live in Montana.

Although similar in appearance, hares are usually larger than rabbits. The hare species inhabiting Montana all have black-tipped ears that are longer than the ears of rabbits. Two of the hare species—the whitetail jackrabbit and the snowshoe hare—change color during winter. The blacktail jackrabbit, Montana's third hare species, does not change color, nor do any of the four rabbit types (mountain, eastern and desert cottontail, and pygmy rabbit).

Hares and rabbits have similarities. In both, the ears are longer than they are wide. The hind legs are well-adapted for running and are longer than the front legs. Five digits (finger-like projections) are present and the soles of the feet have hairy cushions.

Both rabbits and hares belong to the order Lagomorpha. Members of this order live on land and eat only vegetation, preferring grasses and other herbaceous plants. In winter, or when food is scarce, they eat the bark of young trees and shrubs.

Members of this order have a remarkable means for obtaining the maximum value from their food. Their fecal material is of two types: moist pellets and dry pellets. The moist pellets are expelled and later eaten by swallowing without chewing; thus, the food travels through the digestive tract twice. The dry pellets are not eaten.

Unlike most mammals, female rabbits and hares are usually larger than the males. The females have three to five pairs of mammary glands. They come into heat (are receptive to males) a number of times during the year and give birth to several litters. Gestation ranges from 28-47 days, depending on the species. From two to eight young are usually born, but the number in the litter depends on the individual female and her diet.

Young rabbits are born without fur, blind and helpless. The female rabbit prepares a fur-lined nest where the young spend considerable time. On the other hand, hares are born fully haired, with eyes open, and they are able to run a few minutes after birth. They are born in the open without the protection of a nest. Rabbits are capable of reproducing in about 40 weeks, hares in about one year.

Hares and rabbits avoid predators by their keen senses of hearing and smell. In addition, they use danger signals, such as drumming with their hind feet—which is no doubt why both rabbits and hares are sometimes called "thumpers." This thumping sound can be detected by hares and rabbits at a considerable distance. When frightened, some rabbits will emit a loud, shrill scream. Those species of rabbits which are poor runners use burrows to hide in. These defense mechanisms must have worked: Rabbits and hares have been around since the Pliocene, some 70 million years ago.

Hares and rabbits are important in the clothing industry and as food. The dense fur has been used most extensively as trim on garments, but it is not of sufficient quality to produce top-notch hats or fur coats. In recent years, many people have begun raising domestic rabbits as a source of meat. In some areas of the United States, rabbit is a very popular delicacy and has even become a staple item in many people's diets.

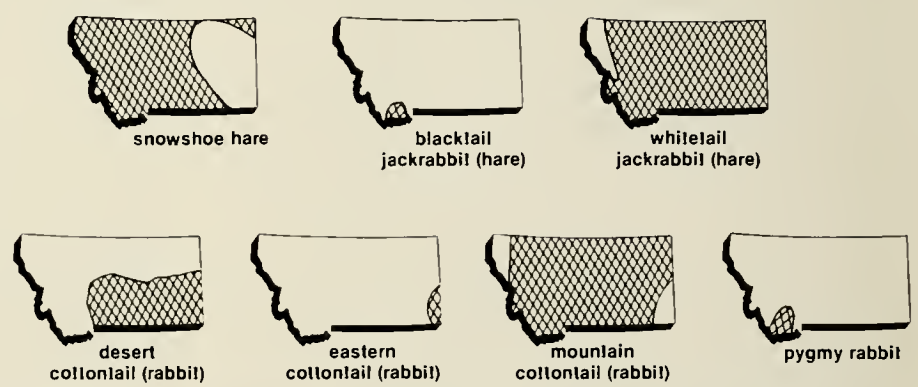
Hares and rabbits are still favorites with hunters in many parts of the country. In Montana, rabbits and hares are classified as nongame animals. There is no season or bag limit, and no license is required to hunt them. Rabbit hunting is not nearly as popular in the West as it is in some of the eastern states.

Many rabbits are used in medical and other experimental work and they have also become popular as children's pets. Their fur does not affect many children allergic to dogs and cats.

Even though you might call a rabbit a hare, or a hare a rabbit, the versatility of this furry member of this animal world cannot be overlooked. ■

Whitetail jackrabbit (photo: Mike Crider)

Distribution of Hares and Rabbits in Montana



Leave Your Watch at Home

graphics: Vern Craig

by Jim O'Loughlin

SEEING a fly fisherman in action always causes me to pause and enjoy, at least momentarily, the culmination of what it means to live in the Big Sky country.

The fisherman himself is attired in classic garb from head to toe, the hat colorfully decorated with flies of every hue, wicker creel over the shoulder, net at the ready on the belt, hip boots protecting lower extremities, left hand holding limp line, right hand pointing the fly rod at 10 o'clock, with the line curving in a lazy "S" above. An artist would try to capture the snow-capped mountain peaks in the background; the lush foliage alive, as the aspen leaves twist and turn to Mother Nature's overture. The artist has the most difficulty with the water—its ripples, and its enthusiasm like the leaps and bounds of a child at play. And the white puffs of cloud floating in the startlingly blue sky.

Who wouldn't want to be part of such a scene? I, for one.

Because, in the moment of truth, the aspen tree grabs my hook and it takes 20 minutes to untangle my line. I lose my fly and find that of the many flies in my collection, I have nary a one of the type on which the fish are hitting. My unstable boots let me down, literally, and I recall I should have covered the soles with carpet. As I land, rear end leading, the water fills my hip boots with the chilly elixir of life.

My fly-fishing stories are full of fish that got away. Once, even my pole got away, because I never have fully mastered the art of holding rod in right hand, slack line in left and net in teeth.

So I put elitism and aesthetics behind. I learned how to ice fish. There's no artistry involved, but there are, even here, pitfalls.

Pushing my luck up to St. Patrick's Day, the spongy ice gave way and I got just as wet as in my fly-fishing days, except the water was a lot colder. Something more than luck resulted in me getting out of the water and off the ice. To retrieve my gear, I grappled from the safety of the shore with a borrowed fishing pole. All of this while I slowly froze.

Luckily, I made it home, *sans* hypothermia, and with most of my gear, only to greeted by my wife pointedly noting, "Well, I suppose you ruined your watch."

The lessons learned that day included: (1) Don't ice fish so late in the spring, and (2) leave your watch at home.

* * * * *

My brother didn't benefit from the process of learning ice fishing nearly so well as I did. An early freeze one year excited my thirst for adventure, so we agreed to meet at Canyon Ferry Reservoir, he coming from Bozeman, I from Helena. Since I have the greater enthusiasm for ice fishing, I was there early, carried my buckets of gear a mile or so out onto the ice and, in below zero weather, augered the minimum number of holes. For an hour, the fishing kept my mind off the bone-chilling cold.

I badly needed a cup of hot coffee. The old thermos of warmth reposed in one of my buckets. With stiff, cold fingers, I picked it up and watched in horror as it fell from my frozen fingers and crashed onto the ice at my feet. That rich, mocha color spread and mixed with tears on the white carpet of snow. But not to worry; Brother Joe was due momentarily.

Soon, I spotted his car. He pulled up to the shore and began the agonizingly slow process of unloading his gear and hiking out to join his by-now frantically waving brother. When he arrived, I told him how welcome a sight his thermos and he were, in roughly that order. Being considerate and recognizing the early stages of deprivation hysteria, he shoved his thermos of coffee at me. Again, I stared in startled disbelief as the thermos hit the ice and quickly spread its warm stain.

The lessons learned that day resulted in the purchase of two steel thermoses.

* * * * *

The next time Brother Joe met me at Canyon Ferry, it was snowing and drifting. I was again the first to arrive and found access to the ice closed by drifted snow. Returning to meet Joe, I passed several four-wheel-drive outfits before encountering him. We discussed the situation. Due to my persuasive powers and superior knowledge of the elements, we agreed to follow the four-wheelers through the

drift and get on with our fishing. The track through the drift was well-broken and we had no problems.

Fishing was good enough to hold my undivided attention for several hours, in spite of spitting snow and sharp winter winds. My chilly reverie was broken by Joe saying he thought maybe the situation was getting worse because ours were the only two cars still on the ice—not a four-wheeler in sight. There was no way we could get out the way we came—the drift was both tall and wide and it blocked access to the road. We found we could get off the ice through private grazing land. For two hours, like mice in a maze, we made our way in the blizzard, around drifts, through fence gates, trying to get back to the main road.

Perseverance paid off and we finally arrived at the main gate which separated us from the county road, only to find the gate chained and padlocked. The shock had hardly set in when a pickup approached from the freedom side of the gate. Out got a figure looking big and mean enough to be a grizzly bear. He identified himself as the trespassee. He listened dubiously to our story, then informed us it was impossible to get to there from here. Luckily, my brother convinced him we'd not cut any fences, and he let us pass with only a thorough tongue-lashing.

Brother Joe especially learned another valuable lesson: He has become an accomplished fly-fisherman.

* * * * *

Undaunted, I found another Irishman with a flare for the unexpected in ice fishing and together we set out to unravel the mysteries of catching kokanee salmon through the ice. Mike and I soon discovered the enigma of their light bite, soft mouth and wild gyrations unmatched by any other fish. We missed many hits and lost countless kokanee off our hooks.

On one of our premier outings, we cut many holes looking for just the right spot. As all ice fishermen suspect, you can have great success within a few feet of a miserably failing hole. Mike had a pole braced in a somewhat fresh hole, while he continued boring a fresher hole a few feet away; I was some 50 feet away looking for greener pastures. Suddenly, I saw a salmon emerge from an abandoned hole, trailing a fish line.

The salmon landed on the ice, practically in the creel; at the same instant, my partner's braced pole began bobbing furiously. Mike grabbed the bobbing pole and frantically started reeling. I shouted, "No, no, the fish is already on the ice."

But my friend didn't heed my words and I watched incredulously as the salmon headed for the hole and disappeared back into the water. To my surprise (and delight), Mike finally retrieved the salmon and got it back onto the ice. With a look of self-satisfaction, he turned to me and asked, "Now where is that other fish you were yelling about?"

The lesson of the day? A salmon on the ice—twice—is worth two in the creel any time.

* * * * *

Mike is a bit of a show-off who doesn't rely on his record of past achievements. The next time we went out for salmon, he proved that. We had thoroughly exhausted one area and moved our gear several hundred feet. Since fishermen don't like to waste time, Mike left a set-up fishing pole working in the abandoned area. After we were established in our new location, he went back to check, only to find his pole sucked down into the deep by a very large salmon. This was a cruel blow, losing both fish and rod and reel.

Later, my optimistic friend returned and dropped another line down hoping to entice that big salmon. He was rewarded by a hard hit and began to reel in what felt like a record salmon. Instead, he had hooked the lost pole. But when he retrieved it through the hole, he discovered the salmon was still on the line. The storybook ending included Mike landing the two-pound salmon with what was once his lost pole. What he might do for an encore is mind boggling but the lesson here no doubt has something to do with the luck of the Irish. Or the Blarney stone.

By the way, I did invest in a new fly-rod, and I have asked my brother if he ever needs a partner, to let me know. ■

The Bitter Fight Over Bitter Creek *continued*

taken an impractical approach to wilderness with the motive of discouraging future wilderness areas, an accusation the Forest Service strongly denies.

In Colorado, the Forest Service is proposing about 1.25 million acres of wilderness in 20 different units. Stockmen and wilderness advocates, in an attempt to bypass federal interpretation, have gotten together and drafted language for the wilderness bill that will specify and guarantee what stockmen will be able to do when these areas are classified wilderness. Vehicles are allowed for heavy fence maintenance; heavy equipment can be used to clean out silted stock ponds; trucks and helicopters can be used to feed or move stock out in emergency situations, and other economically beneficial activities will be allowed, as long as they do not threaten the "wild" character of the area. Some Montana wilderness proponents and stockmen think at least some prairie wilderness could be secured with this kind of approach.

But there is more to this issue—opposition that seems to defy reason. It is seldom talked about, but one can feel it, especially when talking with second- and third-generation residents. The clues are in the local museum, in the donated journals and scrapbooks, in the faces of people in old photos, standing near dugouts and tar paper shacks. You get the idea looking at handmade tools and buffalo coats, and patent medicine bottles, and pictures of lean stock. The answer has something to do with stories about alkali dust, grasshoppers eating tar paper, hunger, snow blindness, abandoned towns, homestead documents and country cemeteries where certain years dominate. It is a deep feeling. It goes down to the roots of patriotism, emotional love, religious faith and feelings for personal freedom.

There are a lot of heartaches and broken dreams scattered about the prairie, many hopes and spent prayers, much living and dying and sweat invested in the soil—too much to let outsiders even suggest how the land should be treated, or how it should be managed. ■